THAT WHICH IS CLAIMED IS:

1. A method of manufacturing a decoupler for a vehicle interior trim component, comprising:

conveying materials into an enclosure to form a preform having a shape of the enclosure, wherein the enclosure has a perforated portion and at least one panel movable relative to the enclosure so as to selectively expose portions of the perforated portion;

providing conveying apparatus, a plurality of stations, and a plurality of molds wherein said apparatus conveys said plurality of molds from station to station to form said preform into said decoupler, wherein said stations sequentially;

receive said preform from said enclosure into said mold;

heat said preform in said mold to a temperature such that adjacent materials may bond to one another upon cooling; and

form said heated preform in said mold into a predetermined three-dimensional decoupler.

2. The method of claim 1 wherein the conveying apparatus includes an indexing line wherein said apparatus selectively starts and stops with respect to each station.

3. The method of claim 2 wherein the indexing line comprises a rotary table.

4. The method of claim 1, wherein the molds and/or the enclosure has a contoured shape.

5. The method of claim 1 wherein the materials comprise thermoplastic material, thermoset

material, fibrous material, foam, woven material, nonwoven material, fiber of any type, and combinations thereof.

6. The method of claim 5, wherein the fibers may comprise any of natural fibers, synthetic fibers, recycled fibers, bicomponent fibers and blends thereof.

7. The method of claim 6, wherein the fibers comprise shoddy fibers.

8. The method of claim 1, wherein the materials are conveyed into the enclosure in a substantially loose state.

9. The method of claim 1, wherein a carrier layer is disposed within the enclosure and wherein the preform is supported by the carrier layer.

10. The method of claim 9, wherein the carrier layer comprises an acoustic web of material, scrim or contoured trim piece.

11. The method of claim 9, wherein the carrier layer comprises scrim material.

12. The method of claim 1, wherein the materials are conveyed into the enclosure from more than one direction.

13. The method of claim 1, wherein the materials are conveyed into the enclosure so as to form a preform having first and second portions said portions having different respective densities.

14. The method of claim 13, wherein the

materials are conveyed into the enclosure so as to form a preform having first and second portions said portions having different respective cross-sectional dimensions, and wherein the forming step comprises forming the heated preform into a predetermined three-dimensional decoupler configuration.

15. The method of claim 13, wherein the materials are conveyed into the enclosure so as to form a preform having first and second portions said portions having substantially the same respective cross-sectional dimensions, and wherein the forming step comprises forming the heated preform into a predetermined three-dimensional decoupler configuration.

16. The method of claim 1, wherein the conveying of materials into the enclosure includes the adjusting of the rate of movement of the at least one panel to adjust density in identified portions of the decoupler requiring enhanced sound attenuation.

17. The method of claim 1, further comprising the ascertaining of acoustic properties of a vehicle passenger compartment to identify portions of the decoupler requiring enhanced sound attenuation.

18. The method of claim 17, wherein the ascertaining of acoustic properties of the vehicle passenger compartment comprises identifying portions of the decoupler at which sound within a predetermined frequency range is directed at an intensity level that exceeds a threshold intensity level.

19. The method of claim 17, wherein the ascertaining of acoustic properties of the vehicle passenger compartment comprises generating a sound

intensity map of at least a portion of the vehicle passenger compartment.

20. The method of claim 1 wherein the materials are heated as they are conveyed into said enclosure.

21. The method of claim 1 including a plurality of panels movable relative to the enclosure.

22. The method of claim 20 wherein said panels are hingedly moveable and selectively opened and closed.

23. The method of claim 1 wherein said enclosure includes a partition.

24. The method of claim 1 wherein the density of the preform may be varied as the at least one panel is moved to expose the perforated portion of the enclosure.

25. The method of claim 1 wherein the step of heating the preform to a temperature such that adjacent materials may bond to one another upon cooling comprises supplying the preform with materials comprising an amorphous polymer and a crystalline polymer wherein the amorphous polymer is heated above its glass transition temperature (**Tg**) and the crystalline polymer is heated to a temperature below its melting point (**Tm**).

26. A system for manufacturing a preform comprising:

an enclosure comprising a perforated portion and at least one panel movable relative to the enclosure so as to selectively expose portions of the perforated portion;

a feeder configured to introduce materials into the enclosure to form a preform having a shape of the enclosure wherein the density of the preform within the enclosure may be varied by moving the at least one panel to expose the perforated portion of the enclosure as materials are blown into the enclosure;

a conveying apparatus including a plurality of molds; wherein said conveying apparatus further comprises a plurality of stations which in sequence;

receive said preform from said enclosure into one of said plurality of molds;

heat said preform in said one of a plurality of molds to a temperature such that adjacent materials may bond to one another upon cooling; and

form said heated preform in said one of said plurality of molds into a predetermined three-dimensional decoupler.

27. The method of claim 26 wherein the conveying apparatus comprises an indexing line wherein said apparatus selectively starts and stops with respect to each station.

28. The method of claim 27 wherein the indexing line comprises a rotary table.

29. The system of claim 26 wherein the system includes a plurality of panels movable relative to the enclosure.

30. The system of claim 29 wherein said panels are hingedly movable and capable of being selectively opened and closed.

31. The system of claim 26 wherein the materials comprise thermoplastic material, thermoset

material, fibrous material, foam, woven material, nonwoven material, fiber of any type, and combinations thereof.

32. The system of claim 26, further including a a bale cutter to provide fibers to said feeder.

33. The system of claim 26 further including a process controller wherein said process controller includes inputting of processing variables and said process controller outputs control parameters to said system to provide a desired geometry and density for said preform.

34. The system of claim 26 further including a process controller wherein said process controller includes inputting of processing variables and said process controller outputs control parameters to said system to provide a desired geometry and density for said decoupler.

35. The system of claim 26 further including a machine-readable medium whose contents causes the system to perform a method of forming a decoupler for a vehicle interior trim component comprising;

storing desired acoustical characteristics of a decoupler configuration in said medium;

storing processing variables required to provide said desired acoustical characteristics of said decoupler;

selecting at least one processing variable required to form said decoupler with said desired acoustical characteristics;

outputting said at least one processing variable to said system to perform said method of forming said decoupler.

36. A method of manufacturing an article of controlled density, comprising:

conveying materials into an enclosure to form a preform having a shape of the enclosure, wherein the enclosure has a panel containing one or a plurality of movable portions relative to the enclosure so as to selectively expose portions of the enclosure, wherein the density of the preform may be varied as the at least one or plurality of movable portions are moved to expose a portion of the enclosure;

providing conveying apparatus, a plurality of stations, and a plurality of molds wherein said apparatus conveys said plurality of molds from station to station to form said preform into said article, wherein said stations sequentially;

receive said preform from said enclosure into said mold;

heat the preform in said mold to a temperature such that adjacent materials may bond to one another upon cooling; and

form the heated preform in said mold into said article.

37. The method of claim 36 wherein the materials comprise thermoplastic material, thermoset material, fibrous material, foam, woven material, nonwoven material, fiber of any type, and combinations thereof.

38. The method of claim 36 wherein said step of conveying materials includes introducing said materials in a substantially loose state by blowing said materials into said enclosure with an air stream, and said one or plurality of moveable portions upon moving

defines an opening in said panel to expose a portion of the enclosure, wherein said openings further include a structure to regulate the amount of air that blows through and the amount of material retained in the enclosure.

39. The method of claim 36 wherein vacuum is included to convey said materials into said enclosure to form said preform.

40. The method of claim 38 wherein said step of conveying materials includes introducing said materials in a substantially loose state by blowing said materials into said enclosure with an air stream and applying a vacuum to convey said materials.

41. A rotary indexing apparatus for forming a preform into a decoupler, the apparatus comprising;

an indexing table comprising a plurality of mold stations and a plurality of process operations wherein each mold station is operatively engaged to a selected process operation;

a mold located at each mold station;

a shuttle apparatus for moving said mold from said mold station to said selected process operation;

wherein said table indexes said mold in said mold station sequentially to said selected process operation to form said decoupler, and wherein said process operations comprise:

receiving said preform into said mold;

heating the preform in said mold to a temperature such that adjacent materials may bond to one another upon cooling;

forming the heated preform in said mold into a predetermined decoupler configuration; and

removing said decoupler from said mold.